Ontario Energy Board

EB-2012-0383

Report of the Board

Review of the Board's Cost Allocation Policy for Unmetered Loads

December 19, 2013

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Contents

EXECUTIVE SUMMARY

This consultation followed directly from the Report of the Board in EB-2010-0219, *Review of Electricity Distribution Cost Allocation Policy*, issued March 31, 2011, in which the Board stated that cost allocation issues related to unmetered loads (i.e., street lighting, sentinel lighting, and unmetered scattered load) would be best addressed in a separate consultation process.

The key objectives of this consultation process for cost allocation issues related to unmetered load customers were set out in the Board's October 1, 2012 letter:

- clarifying the terminology used to allocate costs for unmetered loads;
- clarifying the methodology used to allocate costs for unmetered loads;
- providing further guidance to LDCs on flexibility of, and augmenting instructions provided with, the current cost allocation model with respect to unmetered loads; and
- providing recommendations with respect to updating the cost allocation model with additional worksheets or to make other changes to the model as required.

The Board retained the services of Elenchus Research Associates, Inc. to prepare a report that included background information, clarified terminology and methodology, and provided recommendations on the above-listed matters.

A working group was also formed to provide advice to Board staff and to assist the Board's consultant. Distributors, customers, and special interest groups were represented and a list of participants is included as Appendix A to this report.

On May 17, 2013, the Board posted the consultant's report, *Review of Cost Allocation Policy for Unmetered Loads*, for comment. Seven stakeholders provided written comments.

The specific issues addressed in this report are:

- updating data;
- Conditions of Service;
- communication;
- the cost allocation model and the cost allocation methodology; and
- terminology and definitions.

Updating Data

The Board believes that there should be ongoing communication between distributors and unmetered load customers. Unmetered load customers should be able to determine, and distributors validate, what the appropriate consumption levels and load profiles are for particular devices that will reflect the technology used in street lights or other unmetered loads.

The Board believes that unmetered load (kW) and consumption (kWh) data should ultimately be used to update load profile data for the purpose of the distributor's next cost allocation filing with the Board, which occurs during the distributor's next cost of service application to the Board.

Conditions of Service

The Board believes that distributors' Conditions of Service should set out in reasonable detail how unmetered load customers are to file updated data with their distributors and what evidence is necessary for distributors to validate updates to the data.

The Board will, through a separate code amendment process, amend the DSC to require distributors to include certain information in their Conditions of Service in relation to unmetered load customers. The proposed code amendments will likely reflect the Elenchus recommendations.

Communication

The Board has provided guidance on customer engagement in its *Filing Requirements for Electricity Distribution Rate Applications* stating that, the "RRFE [Renewed Regulatory Framework for Electricity] Report contemplates enhanced engagement between distributors and their customers to provide better alignment between distributor operational plans and customer needs and expectations."[1] These *Filing Requirements* naturally extend to distributor engagement with unmetered load customers.

The Board expects distributors to assist unmetered load customers with understanding the regulatory context in which distributors operate and how it affects unmetered load customers, and the proposed code amendments will also reflect the inclusion of communication information for customers in the Conditions of Service.

The Cost Allocation Model and Cost Allocation Methodology

The Board will not change the cost allocation model. The Board will also not change the inputs and assumptions used in the model (i.e., the cost allocation methodology).

[1] Filing Requirements for Electricity Distribution Rate Applications, p. 9-10, July 17, 2013.

However, given the possible misuse and/or misunderstanding of the cost allocation model, the Board will augment the instructions contained in the cost allocation model to deal with some of the issues raised in the course of this consultation.

For example, the Board will either add further instructions to the cost allocation model or refine the worksheet in the cost allocation model to clarify how to develop appropriate weighting factors for allocating costs to unmetered load customers.

The Board will also update and augment the instructions or worksheets provided with the cost allocation model to clarify areas where the distributor may input its own defined values (i.e., inputs where it previously appeared there was no such flexibility and where there is in fact flexibility in the cost allocation model that allows a distributor to best describe its particular circumstances). However, distributors must support their defined values with evidence as to why their defined values are appropriate.

The Board remains concerned with the allocation of costs to daisy-chain configured systems. The disparity in the cost allocation result between a street lighting customer configuration with multiple devices per connection and a street lighting customer with a device to connection ratio close to 1:1 appears to be disproportionate when compared to actual costs to serve the street lighting rate class. The Board believes that further investigation is necessary before making a determination. The Board will issue a letter shortly to begin a consultation process for this single issue.

The Board's policy remains that distributors should endeavour to move their revenue to cost ratios closer to one or 100% if this is supported by new data. That being said, the Board does not believe that there is sufficient evidence at this time to narrow the revenue to cost ratio range for the street lighting class. The Board has therefore concluded that the revenue to cost ratio range for the street lighting rate class should not be narrowed at this time.

However, the Board expects that as a result of this consultation and the future code amendment regarding distributors' Conditions of Service, there will be a greater certainty and understanding of this customer class for both the street lighting customer and the distributor. The Board is confident that distributors will therefore be able to achieve a more accurate use of the cost allocation model in the future for the street lighting class and that distributors will be able to narrow the revenue to cost ratio range for the street lighting class to be in line with the revenue to cost ratio ranges of other unmetered loads. The Board expects distributors to do this at the next available opportunity to do so (i.e., the distributors' next cost of service application following the completion of the aforementioned code amendment process).

Terminology and Definitions

The Board agrees that consistency in terminology is important. The Board will therefore include in the instructions or worksheets for the cost allocation model definitions for account, connection, customer, and device (as they relate to unmetered loads). The definitions/terminology will likely follow the recommendations made in the consultant's report.

The Board also believes that it is important that unmetered load customers understand the different configurations that may be used to connect customer assets to the distribution system. The Board will also add some commentary on the two main configuration types for connecting unmetered loads to the distribution system into the instruction sheet for the cost allocation model.

1 INTRODUCTION

On March 31, 2011, the Ontario Energy Board (the "Board") issued a report on its *Review of Electricity Distribution Cost Allocation Policy* (the "2011 Report"). In the 2011 Report, the Board indicated that cost allocation issues related to unmetered loads (i.e., street lighting, sentinel lighting, unmetered scattered load) would be best addressed in a separate consultation process.

On October 1, 2012, the Board issued a letter to all distributors and interested stakeholders indicating that it would be initiating a consultation process on the unresolved unmetered load issues that were not addressed in the 2011 Report (the "October Letter").

1.1 Scope of the Review

As indicated in the October letter, this consultation was to clarify the terminology and methodology used to allocate costs for unmetered loads. It was also meant to assess the need for, and the nature of, any updates or refinements to specific elements of the Board's cost allocation policy as it relates to unmetered loads. The key objectives of the project were to:

- clarify the terminology used to allocate costs for unmetered loads;
- clarify the methodology used to allocate costs for unmetered loads;
- provide further guidance to distributors on the flexibility of the Board's Cost Allocation Model (the "CA Model") with respect to unmetered loads;
- augment, if necessary, the instructions provided with the Board's current CA Model with respect to unmetered loads; and
- provide recommendations with respect to updating the CA Model with additional worksheets or to make other changes to the CA Model as required with respect to unmetered loads.

1.2 The Consultation Process

A working group was formed to provide advice to Board staff, and to assist the Board's consultant in, identifying and understanding the issues associated with cost allocation for unmetered loads. Distributors, unmetered load customers (i.e., municipalities and Rogers Cable Communications), and ratepayer groups were represented in the working group. A complete list of working group members is attached to this report as Appendix A. The working group met three times between December 2012 and March 2013. The working group's comments/discussions are reflected in the consultant's report.

The Board's consultant for this initiative was Elenchus Research Associates Inc. On May 17, 2013, the Board posted the consultant's report, entitled *Review of Cost*

Allocation Policy for Unmetered Loads (the "Elenchus Report"), for stakeholder comment.

The Board received written comments from seven stakeholders: Hydro One Networks Inc. ("Hydro One"); the Coalition of Large Distributors (the "CLD"); the Electricity Distributors Association (the "EDA"); the Vulnerable Energy Consumers Coalition ("VECC"); the London Property Management Association ("LPMA"); Canadian Manufacturers & Exporters ("CME"); and the City of Ottawa.

1.3 Organization of this Report

This report is organized as follows: chapter 2 provides a summary of the Elenchus Report; chapter 3 addresses each of the five issues discussed in the Elenchus Report (namely, uploading data, communication, Conditions of Service, the CA Model, and terminology and definitions); and chapter 4 sets out the next steps for implementing the conclusions reached by the Board in this report.

2 SUMMARY OF THE ELENCHUS REPORT

The following is a brief summary of the Elenchus Report and what the Board considers to be some of the key analysis and findings set out in the Elenchus Report. Interested parties should refer to the Elenchus Report for a full discussion of all of the issues, findings, and recommendations.

2.1 Historical Context

Until May 2002, electricity rates in Ontario were bundled—the rates included the costs of generation, transmission, and distribution of electricity. Since May 2002, unbundled rates were established to recover generation, transmission, and distribution costs separately from customers. Distribution rates were developed with cost causality principles in mind to ensure that each customer class would be charged for the costs it imposed on distributors.

The move from bundled to unbundled rates has resulted in significant bill impacts for the street lighting and sentinel lighting customer classes in cases where some electricity distributors were more than likely not fully recovering the costs of providing electricity to these specific customer classes.

2.2 Cost Allocation Methodology in General

Most of the assets and expenses related to the delivery of electricity are associated with more than one class (i.e., they are largely assets and expenses shared across numerous customer classes). Cost allocation makes an effort to fairly apportion these assets and expenses across the various customer classes. This allocation forms the basis for distribution rates. Traditional cost allocation is a three step process: functionalization, categorization, and allocation.

Functionalization groups assets and expenses of a similar nature. Examples of this include line maintenance and meter reading. The assets or expenses are identified so that the costs can be appropriately assigned to the identified functions that the distributors perform to serve their customers. For the unmetered load classes, ‘meter reading’ is typically assigned a zero weighting.

Categorization is the process by which the functionalized assets and expenses are classified according to their cost drivers. Typical cost drivers are demand, energy, and/or factors specifically related to the type of customer or the customer class. The total costs for each function are costs the distributor incurs to meet the system demand, energy throughput, or other customer-specific factors.

Allocation is the process of attributing the demand, energy, and customer-related assets and expenses to the customer classes being served.

The Board's CA Model makes use of other information such as return on equity, debt costs, capital structure and income taxes, electricity consumption information, and other asset and expenses statistics. In Ontario, distributors must use forecast test year data in order to establish their distribution rates, and the allocations are based on forecast customer counts, loads, and load profile by rate class.

The result of applying a cost allocation methodology ("CA Methodology") is the determination of a revenue to cost ratio for each customer class. A revenue to cost ratio of 1 or 100% is interpreted to mean that the distributors are recovering the costs imposed by that customer class without over or under-recovery. A revenue to cost ratio less than 100% signifies an under-recovery and a revenue to cost ratio in excess of 100% signifies an over-recovery.

A cost allocation study is often referred to as a "zero sum" exercise from the point of view of the distributor. The distributor will recover its approved revenue requirement regardless of how the cost allocation apportions recovery amongst the various customer classes. However, from the point of view of a customer class, the allocation exercise is highly relevant because it impacts customers' bills.

The Board's CA Methodology was set out in a report issued by the Board on September 29, 2006 in EB-2005-0317. The CA Methodology has been in use since 2008 for setting electricity distribution rates. As distributors began using the CA Methodology, revenue to cost ratios in certain customer classes were found to be very low. The Board phased in more appropriate revenue to cost ratios over a number of years. Many street lighting customers saw significant increases to their bills during the phase in period.

2.3 Important Considerations for Unmetered Loads

Elenchus performed a number of sensitivity analyses under different scenarios to determine the most important cost drivers for the street lighting customer class.

The most important cost drivers found were the number of connections and reducing consumption and load. For the number of connections cost driver, one scenario pointed out that if a 15-to-1 daisy-chained system was reduced to a 1-to-1 device to connection system, it would result in a six-fold increase in the revenue requirement of the street lighting class[2]. In other words, the number of connections is the most important driver of revenue requirements for the street lighting class. For the reduction of consumption and load cost drivers, a 50% reduction in both kW demand and kWh consumed resulted in a 33% decrease in the revenue requirement for the street lighting class.

Less important cost drivers for the street lighting customer class were the services weighting factor and the billing and collecting weighting factor. For the services

[2] Elenchus has confirmed that the calculation can be reversed. If a 1-to-1 device to connection system was increased to 15-to-1 daisy-chained system, it would result in 81% reduction in the revenue requirements of the street lighting class.

weighting factor, reducing the applied weighting factor from one to zero only resulted in a decrease of 10% to the revenue requirement. And for the billing and collecting weighting factor, reducing the factor from one to zero resulted in no appreciable decrease to the revenue requirement for the street lighting class.

The sensitivity analyses showed that the number of customer devices is ultimately less important than the number of connections to the distributor's system associated with these devices. Also, a reduction in consumption and/or load can ultimately result in a significant reduction to the revenue requirement applied to street lighting customers and a corresponding reduction in billing amounts to these customers. Therefore, the ability to update the load data for billing and load are both important factors for unmetered load customers.

A critical assumption with respect to the inputs for the street lighting class is the number of devices per connection. This assumption has the most significant impact on the revenue requirement for the street lighting customer class.

Energy efficiency improvements for street light devices can result in a significant reduction in the street lighting distribution revenue requirement but that impact is smaller in comparison to a change in the number of devices per connection.

While there can be savings related to reducing consumption and demand for the street lighting class, these savings are primarily in the form of lower generation and transmission charges, not significantly lower distribution charges.

2.4 Other Observations

It appeared that municipal customers were unaware of the phasing-in of higher revenue to cost ratios that had taken place over the past three to five years. They were also unaware that the repeated rate increases attributable to the large changes in the revenue to cost ratios were unlikely to occur again.

Distributors have not always updated load and consumption data in line with changes to customer equipment. Part of this has to do with a lack of understanding by municipal customers as to what they must file with the distributor to validate their request for an update. It would appear that the distributors' Conditions of Service may not do a good job of explaining the requirements to the unmetered load customers.

In general, communication between unmetered load customers and their distributors was not optimum and it may be possible to improve those communications.

2.5 Recommendations

Elenchus made a number of recommendations in its report. The specific recommendations are discussed in the next section of this report.

3 STAKEHOLDER COMMENTS AND THE BOARD'S APPROACH

This chapter is divided into sections that address the five key areas that were identified by the working group and set out in the Elenchus Report. The five key areas are:

- updating data;
- communication;
- Conditions of Service;
- the CA Model and the CA Methodology;[3] and
- terminology and definitions.

The Board will discuss each of these issues below.

3.1 Updating Data

3.1.1 *Description of the Issue*

Unmetered load refers to three customer classes—street lighting, sentinel lighting, and USL. Electricity consumption for these classes is not metered because the classes consist of relatively small dispersed loads with electricity consumption that is more or less predictable and can be determined based on the characteristics of the connected load (for example, light size or cable TV amplifier rating). In the current CA Model, different allocation factors are used for these customer classes and metering costs are not allocated to them.

The fact that these classes are not metered creates unique issues in ensuring that the CA Model appropriately allocates costs in a manner that is reflective of the cost causality principle.

Unmetered loads have historically had electricity consumption that is predictable and can be determined based on the characteristics of the connected devices. With the advent of energy-efficient devices and adaptive controls, street lighting in particular has departed from the truly static load characteristics seen in the past. USLs have also shown changes in the loads of their devices due to the weather sensitivity of some devices and controls.

Street lighting customers are going through the process of replacing end-of-life or near end-of-life devices with more energy efficient devices. This will likely lead to a reduction in demand and consumption for customers in this class. Because the loads are unmetered, distributors may not be immediately aware of these changes and customers may not see the impacts of efficiency improvements reflected in their bills. These efficiency improvements or other changes to the unmetered loads will only be reflected

[3] This section was simply titled "Cost Allocation Model" in the Elenchus Report.

on customers' bills once a distributor has been informed of the changes, validated the changes, and incorporated the new information into its billing system.

Similarly, the CA Model requires accurate and up-to-date load profile data for unmetered loads to allocate the costs of the distributor properly to the unmetered load classes. The cost allocation filing only takes place once every few years. It is therefore imperative that the customer provide input at the cost allocation study stage so that the cost allocation can be updated and appropriate rate design realignment can be done as part of the distributors' cost of service application.

3.1.2 *Recommendation of Elenchus*

The Elenchus Report recommended that municipalities and distributors should establish a channel of communication that will enable the municipalities to bring to the attention of their distributor any technological change(s) that impacts electricity consumption. Municipalities and distributors should be able to determine what the appropriate consumption pattern is for the unmetered load that would reflect the technology used by those customers.

Elenchus also recommended that the Board direct distributors to update unmetered load profiles reflecting energy efficiency improvements when they can be supported by evidence presented by unmetered load customers. Elenchus recommended that the updated consumption estimates should be used by distributors for billing unmetered loads as soon as they are validated.

3.1.3 *Stakeholder Comments*

Stakeholders generally supported the Elenchus recommendations with respect to updating data for billing and load profile purposes.

VECC was of the view that distributors should take primary responsibility for establishing the "channel" of communication; however, VECC stated that it should be the responsibility of the unmetered load customers to inform the distributor of any changes that will affect the energy usage of their unmetered devices or the number of unmetered devices.

LPMA suggested that the Board should determine a generic process for maintaining accurate and up-to-date unmetered load data and that this process should be specified in each distributor's Conditions of Service.

The EDA pointed out that the updated load profiles could only be implemented at the time of a distributor's rebasing.

Hydro One stated that given the large number of municipalities and unmetered load customers it serves across the province, the initial updating of unmetered load profiles

is a substantial undertaking and Hydro One requested flexibility for the timing of the completion of this initiative.

3.1.4 *The Board's Approach*

The Board believes that there should be ongoing communication between distributors and unmetered load customers. This will enable the municipalities and other unmetered load customers to bring to the attention of their distributor any technological changes that impact the electricity consumption or the load profiles of their unmetered loads. Unmetered load customers should be able to determine, and distributors should be able to validate, what the appropriate consumption levels and load profiles are for particular devices that will reflect the technology used in street lights and other unmetered loads.

Distributors should update unmetered load and consumption data for billing purposes that reflects energy efficiency improvements or other changes when those changes can be supported by evidence presented by unmetered load customers. It will be the responsibility of the unmetered load customer to provide the information to the distributor. The updated consumption data should be used by distributors for billing unmetered loads once it is validated by the distributor.

The Board also believes that unmetered load and consumption data should ultimately be used to update load profile data for the purpose of the distributor's next cost allocation filing before the Board which will occur at the time of the distributor's cost of service application/rebasing.

3.2 Conditions of Service

3.2.1 *Description of the Issue*

It is not clear what the process is for updating unmetered load customer data with the distributor. Given that the distributors' Conditions of Service is a key tool for governing the interaction between distributors and their customers, it would appear that distributors' Conditions of Service may be an appropriate place to include information on what is required of unmetered load customers and what distributors will do in relation to data from unmetered load customers. This section will look at what, if anything, should be codified in the Distributions System Code (the "DSC") in relation to a distributor's Conditions of Service.

3.2.2 *Recommendation of Elenchus*

Elenchus recommended that distributors' Conditions of Service should clearly state the roles and responsibilities of distributors and unmetered load customers with respect to keeping load demand and consumption data current.

Elenchus made a number of recommendations for requirements that distributors could include in their Conditions of Service, including the following:

- the process for unmetered load customers to submit load and consumption data;
- how the data gets validated/tested;
- clarification of ownership and maintenance responsibilities of a distributor and the unmetered load customer; and
- references to external documentation that is relevant to unmetered load customers.

Elenchus also recommended that distributors should work with unmetered load customers to ensure that these customers are aware of and understand the requirements of unmetered load customers and distributors in determining the load profiles for unmetered loads.

3.2.3 *Stakeholder Comments*

Stakeholders supported Elenchus' recommendations and made the following comments.

As stated above, LPMA suggested that the Board should determine a generic process for maintaining unmetered load data and specify this in the Conditions of Service.

Hydro One supported Elenchus' recommendations but expressed the view that if the Board plans to direct distributors to update their Conditions of Service, that the Board should be flexible in its timelines. Hydro One noted that implementing a new process for unmetered load customers could take considerable time for Hydro One to complete because of the vast number of municipalities and unmetered load customers it serves across the province.

3.2.4 *The Board's Approach*

The Board believes that distributors' Conditions of Service should set out in reasonable detail how unmetered load customers are to file updated data with their distributors and what evidence is necessary to validate updates to the data.

The Board will, through a separate code amendment process, amend the DSC to require distributors to include certain information in their Conditions of Service in relation to unmetered load customers. The code amendments will likely reflect the Elenchus recommendations.

3.3 Communication

3.3.1 *Description of the Issue*

Communication between distributors and unmetered load customers has been inconsistent. The main concern with respect to cost allocation is that there appears to be a lack of understanding by unmetered load customers as to what is required of them. This lack of understanding could be due to a number of factors, such as limited explanations given by distributors to unmetered load customers and unmetered load customers not being in close contact with their distributors.

3.3.2 *Recommendation of Elenchus*

Elenchus made a number of recommendations with respect to communications between distributors and unmetered load customers.

Elenchus recommended that distributors should continue to work closely with municipalities in order to determine and explain the configuration system used to connect street lights and other unmetered loads. The actual configuration used in connecting unmetered loads should be clearly reflected in the distributor's cost allocation. Elenchus noted that the connection configurations utilized by the distributor in the CA Model has a significant impact on cost allocation results, particularly in the case of street lighting customers.

Elenchus recommended that distributors should continue their efforts to explain to unmetered load customers the regulatory process that is followed in Ontario in order to approve distribution rates, including the Board's CA Model and how it is used to develop charges for unmetered loads.

Elenchus also stated that good utility practice would be to involve unmetered load customers in stakeholder sessions when the distributor is preparing its rate rebasing application to the Board (i.e., before it is finalized), in order to allow the customers to understand the assumptions used in the application and the resulting impacts.

3.3.3 *Stakeholder Comments*

Stakeholders generally supported Elenchus' recommendations for increased communication efforts. LPMA commented that distributor consultation activities with unmetered load customers should be ongoing and should not simply occur immediately before the distributor files an application with the Board for rate rebasing.

3.3.4 *The Board's Approach*

The Board has addressed the requirement for increased communication between distributors and their customers as part of the *Filing Requirements for Electricity Distribution Rate Applications* (the "Filing Requirements").

Some of the specific requirements for distributor engagement with customers are set out below:

> The RRFE [Renewed Regulatory Framework for Electricity] Report contemplates enhanced engagement between distributors and their customers to provide better alignment between distributor operational plans and customer needs and expectations. The Board expects distributors to provide an overview of customer engagement activities that the distributor has undertaken with respect to its plans and how customer needs have been reflected in the distributor's application.
>
> Distributors should specifically discuss in the application how their customers were engaged in order to determine their needs. This could include references to any communications sent to customers about the application such as bill inserts, town hall meetings held, or other forms of outreach undertaken to engage customers and explain to them how the application serves their needs and expectations and the feedback heard from customers through these engagement activities.
>
> If distributors have not engaged in customer engagement activities, distributors must explain why and if any such activities are planned for in the future.[4]

These Filing Requirements naturally extend to distributor engagement with unmetered load customers.

The Board expects distributors to communicate with unmetered load customers to assist them with understanding the regulatory context in which distributors operate and how it affects unmetered load customers.

For example, distributors could communicate with unmetered load customers in relation to the preparation of cost allocation studies (including updates to load profiles), revenue to cost ratios, information on how customer billing updates take place, updates to unmetered load configurations, and changes to weighting factors.

As stated in the Filing Requirements, the Board expects that an appropriate narrative of

[4] Filing Requirements for Electricity Distribution Rate Applications, p. 9-10, July 17, 2013.

engagement and consultation efforts will be brought forward in distributors' cost of service applications.

3.4 CA Model and the CA Methodology

3.4.1 *Description of the Issue*

The working group and Elenchus reviewed the CA Methodology (i.e., the inputs and assumptions) and how it is applied in the CA Model in order to ascertain whether the existing CA Methodology needs to change or whether revisions to the CA Model are required.

3.4.2 *Recommendation of Elenchus*

3.4.2.1 CA Model Changes

Elenchus recommended that the CA Model used by distributors should not be modified. The CA Model itself is not deficient; it is the use, application, and understanding of the CA Model that may have been the cause of customer and distributor confusion.

3.4.2.2 CA Methodology

Allocators: kW Demand vs. Amperage

Allocators are used to apportion out the demand and customer-related assets and expenses to all customer classes. The allocators used are number of customers, weighted number of customers, number of connections, demand (kW), and energy (kWh). For certain assets and expenses, composite allocators are utilized.

Elenchus was of the view that an amperage allocator should only be implemented if it can be determined that: the data would be available for all customer classes; that amperage is a better reflection of cost causality; and the impacts of amperage as a demand allocator had been evaluated for all customer classes.

Elenchus also noted that if a distributor feels that there is a better demand allocator than kW in the CA Model, it is free to modify the CA Model and submit its proposal to the Board for review and approval as part of its next cost of service application.

Minimum System Method

Elenchus noted that the customer-related percentages used in the Board's CA Model are in line with values used by utilities in other jurisdictions under the minimum system method. Elenchus supported continued use of the minimum system method in order to classify distribution lines and transformers as customer and demand-related.

Weighting Factors

Elenchus recommended that examples of how to develop weighting factors (i.e., services, and billing and collecting) should be brought to the attention of distributors in order for them to familiarize themselves with the examples and develop their own weighting factors.

Narrowing of the Revenue to Cost Ratio Range for Street Lighting

The range of revenue to cost ratio approved by the Board for the street lighting class is 0.7 to 1.2. For the sentinel lighting and USL classes, the range is 0.8 to 1.2.

Elenchus stated that the Board's current revenue to cost ratio range for the street light customer class remains appropriate given the quality of the underlying data. Elenchus recommended that the Board should not narrow the revenue to cost ratio range for the street lighting class without the support of better data. Elenchus is of the view that if distributors are able to improve the quality of the data they use in the CA Model, then the Board should encourage distributors to adopt revenue to cost ratios that are closer to unity.

3.4.3 *Stakeholder Comments*

The stakeholders generally supported the recommendations of Elenchus. No stakeholder suggested changing the CA Model. One stakeholder did suggest changes to the CA Methodology.

LPMA suggested that the Board should narrow the revenue to cost ratio for the street lighting class to 80% because other unmetered load customers (i.e., sentinel lighting and USL) are already at 80% for the lower limit. LPMA also noted that the street lighting class has a lowest limit of any of the customer classes (i.e., no other customer class has a limit lower than 80%). LPMA stated that it believed that based on the future improvements that would be realized from this consultation, sufficient improvement could be reasonably expected in the CA Model for the street lighting class such that a lower limit of 70% was no longer warranted.

No other stakeholders suggested narrowing the revenue to cost ratio for the street lighting class and some specifically stated that the ratio should remain as it is.

Stakeholders did make other comments relating to the CA Methodology. For example, LPMA suggested that the Board should direct distributors to file the information the distributors used in their proposed weighting factors when the distributor rebases.

LPMA and VECC both stated that a change in the demand allocators would be beyond the scope of this consultation process as it would affect a large number of customers in many rate classes and would require broader study and stakeholder input.

3.4.4 *The Board's Approach*

3.4.4.1 CA Model Changes

The Board will not change the CA Model; however, given the possible misuse of or misunderstanding of the CA Model, the Board will augment the instructions or worksheets contained in the CA Model to deal with some of the issues raised in the course of this consultation.

The Board remains concerned with the allocation of costs to daisy-chain configured systems. The disparity in the cost allocation result between a street lighting customer configuration with multiple devices per connection and a street lighting customer with a device to connection ratio close to 1:1 appears to be disproportionate when compared to actual costs to serve the street lighting rate class. The Board believes that further investigation is necessary before making a determination. The Board will issue a letter shortly to begin a consultation process for this single issue.

3.4.4.2 CA Methodology

Allocators: kW demand vs. Amperage

The Board agrees with Elenchus that a change in demand allocators is not warranted at this time. If amperage or other data becomes available for all classes that would better reflect cost causality, the Board can consider amending the CA Methodology at that time. Furthermore, the Board would want to provide adequate notice to all customer classes of the possible change, not just unmetered load classes.

Minimum System Method

The Board sees no reason to depart from use of the minimum system method in allocating costs at this time. The minimum system method is a well-established method upon which to allocate demand and customer related costs and there has been no compelling evidence brought forward in this consultation to suggest that the approach is in some way flawed.

Weighting Factors

In the Report of the Board, *Review of Electricity Distribution Cost Allocation Policy*, the Board noted that stakeholders expressed widespread support for allowing distributors to substitute their own weighting factor values provided they could support their proposed factors.[5] The Board stated that default weighting factors should be utilized only in exceptional circumstances, and that distributors have had sufficient time to enable them to propose appropriate distributor-specific weighting factors. Furthermore, the Board

[5] Report of the Board, EB-2010-0219, p. 25.

provided documentation describing the standard methodology for deriving the weighting factors in order to provide further guidance to distributors.

In the Elenchus Report, Elenchus has provided further examples of how to determine appropriate weighting factors.[6]

The Board maintains its view that all distributors should be using their own values for weighting factors and making use of examples provided in the CA Model and other Board instruments. The Board will either add further instructions to the CA Model or refine the worksheet in the CA Model to clarify how to develop appropriate weighting factors for allocating costs to unmetered load customers.

Narrowing of the Revenue to Cost Ratio Range for Street Lighting

The Board's policy remains that distributors should endeavour to move their revenue to cost ratios closer to one if this is supported by improved cost allocations. That being said, the Board does not believe that there is sufficient evidence at this time to narrow the revenue to cost ratio range for the street lighting class. The Board has therefore concluded that the revenue to cost ratio range for the street lighting rate class should not be narrowed at this time. However, the Board expects that as a result of this consultation and the future code amendment regarding distributors' Conditions of Service, there will be a greater certainty and understanding of this customer class for both the street lighting customer and the distributor. The Board is confident that distributors will therefore be able to achieve a more accurate use of the CA Model in the future for the street lighting class and that distributors will be able to narrow the revenue to cost ratio range for the street lighting class to be closer to 1 or 100%. The Board expects distributors to do this at the next available opportunity to do so (i.e., the distributors' next cost of service application following the completion of the aforementioned code amendment process).

[6] Elenchus Report, *Review of Cost Allocation Policy for Unmetered Loads*, pp. 36-38.

3.5 Terminology and Definitions

3.5.1 *Description of the Issue*

There has been confusion in the past between distributors and their unmetered load customers about the different terms used in relation to cost allocation and unmetered loads. One of the key objectives of the working group and Elenchus was to clarify the terminology used to allocate costs for unmetered loads.

3.5.2 *Recommendation of Elenchus*

Elenchus recommended that the Board add the definitions included in the Elenchus Report to the instructions for the CA Model. Elenchus also recommended that the Board include in the instructions for the CA Model the different configurations distributors may use to connect unmetered loads.

3.5.3 *Stakeholder Recommendations*

The EDA agreed that distributors should continue to explain the distribution configuration system used to connect street lighting and other unmetered loads to their customers.

The CLD stated that the Board should ensure that each distributor's rate order used the appropriate term with respect to the fixed service charge for the USL rate class (i.e., be aware of the difference between $/connection and $/device).

VECC agreed that there was a need for a clear understanding for the terminology used with respect to unmetered loads in terms of devices versus connections versus customers. VECC also pointed out the need for consistency in the terminology used in cost allocation and rate design (i.e., in the CA Model and in the distributors' tariff sheets).

3.5.4 *The Board's Approach*

The Board agrees that consistency in terminology is important. The Board will therefore include in the instructions or worksheets for the CA Model definitions for account, connection, customer, and device (as they relate to unmetered loads). The definitions/terminology will likely follow the Elenchus Report

The Board also believes that it is important that unmetered load customers understand the different configurations that could be used to connect their assets to the distribution system. There are two main types of connection configurations: one device connected directly to the distribution system; and multiple devices connected to the distribution system behind one connection point (also known as a daisy chain).

A daisy chain configuration therefore reduces the number of connections to the distribution system and is primarily used in the connection configuration of street lighting. Given that the number of connections is one of the most significant cost drivers of the overall allocation of costs to the street lighting customer class, the ability to lower the number of existing connections either by retrofitting assets or employing the daisy chain configuration with respect to new or planned street lighting installations is attractive to these classes. However, it is important to take into consideration that while the daisy chain approach may reduce cost allocation to the unmetered load customer, it may also considerably increase the extent or length of customer-side assets required to serve street lighting. The customer is responsible for servicing and maintaining assets beyond the demarcation point of the distribution system. It is important to note that these customer-side costs are not reflected in the CA Model.

The Board will also add the two main configuration types for connecting unmetered loads to the distribution system into the instruction sheet or work sheet for the CA Model.

4 NEXT STEPS

The Board will begin a code amendment process to amend the DSC to require distributors to include a process for updating the information of unmetered load customers in their Conditions of Service.

The Board will also add information into the instructions of the CA Model or refine worksheets in the CA Model in relation to: weighting factors; definitions/terminology; connection configurations; and clarifying areas where the distributors can insert their own input values (rather than relying on the CA Model's default values) that best describe their particular circumstances. Board staff will provide the amended instructions and/or worksheets to the working group for comment before the Board finalizes them.

The Board will issue a letter shortly to begin a consultation process for the single issue described earlier in this report.

Appendix A: Working Group Members

The May 17, 2013 Elenchus Report, entitled *Cost Allocation Policy Review: Options and Preferred Alternatives*, is available on the Board's web site at:
http://www.ontarioenergyboard.ca/OEB/_Documents/EB-2012-0383/Report_Elenchus_Unmetered_Loads_20130503.pdf

Below is the list of working group members that provided feedback and input that ultimately was used to inform the Elenchus Report.

- Dr. Roger Higgin, on behalf of Energy Probe Research Foundation (EP)
- Bill Harper, Econalysis Consulting Services, on behalf of the Vulnerable Energy Consumers Coalition (VECC)
- Tom Chessman, City of Hamilton
- Jamie Gribbon, Horizon Utilities Corporation
- Paula Zarnett, BDR Consulting, on behalf of Rogers Cable Communications Inc.
- George Shaparew, Innisfil Hydro Distribution Systems Limited
- Ken Robertson, Cornerstone Hydro Electric Concepts (CHEC)
- Kashif Jahangir, Susan Evans, City of Brampton
- Ralph Frebold, City of Toronto
- Scott Vokey, Cathie Brown, Association of Municipalities of Ontario (AMO)
- Jane Scott, Hydro Ottawa, on behalf of the Coalition of Large Distributors (CLD)
- Henry Andre, Hydro One Networks Inc.
- Michael Roger, Andrew Frank, Elenchus Research Associates Inc.
- Vincent Cooney, Takis Plagiannakos, Neil Mather, Ontario Energy Board Staff